ST-5950SD

UK Model
AEP Model

FM STEREO/FM-AM TUNER

SPECIFICATIONS

GENERAL

Outputs:
FIXED: 750 mV, 10 kΩ
VARIABLE: 0–2 V, 3 kΩ
FM DISCRI: 140 mV, 10 kΩ
HEADPHONES: 0–200 mV (8 Ω headphones)

Power Requirements: 110, 127, 220 or 240 V ac adjustable, 50/60 Hz

Power Consumption: 32 W

Dimensions: Approx. 460 (w) x 168 (h) x 331 (d) mm
18 1/8 (w) x 6 5/8 (h) x 13 (d) inches
Including projecting parts and controls

Weight: Approx. 9.3 kg, 20 lb 8 oz (net)
11.7 kg, 25 lb 13 oz (in shipping carton)

FM SECTION

Tuning Range: 87.5 – 108 MHz

Antenna Terminals: 300 Ω balanced
75 Ω coaxial cable input

Intermediate Frequency: 10.7 MHz

Usable Sensitivity: 1.5 μV (MONO), IHF
1.4 μV, S/N = 26 dB (40 kHz deviation)

Sensitivity at 50 dB Quieting: 2.8 μV (MONO)
35 μV (STEREO)

Image Rejection: 90 dB

IF Rejection: 100 dB

Spurious Rejection: 100 dB

AM Suppression: 56 dB

Capture Ratio: 1.0 dB

Selectivity: 85 dB

S/N Ratio: 76 dB (MONO)
70 dB (STEREO)

Harmonic Distortion: at 100 Hz, 1 kHz
0.1 % (MONO)
0.2 % (STEREO)
at 10 kHz
0.15 % (MONO)
0.4 % (STEREO)

Stereo Separation: 40 dB at 100 Hz
50 dB at 1 kHz
40 dB at 10 kHz

Frequency Response: 20 Hz–15 kHz $^{+0.2}_{-1.0}$ dB

19 kHz, 38 kHz Suppression: 70 dB

Muting Level: Approx. 5 μV

AM SECTION

Tuning Range: 530 – 1,605 kHz

Antenna: Built-in ferrite-bar antenna and external antenna terminal

Intermediate Frequency: 468 kHz

Usable Sensitivity: 250 μV/m built-in antenna
100 μV external antenna
at 1,000 kHz

Image Rejection: 45 dB at 1,000 kHz

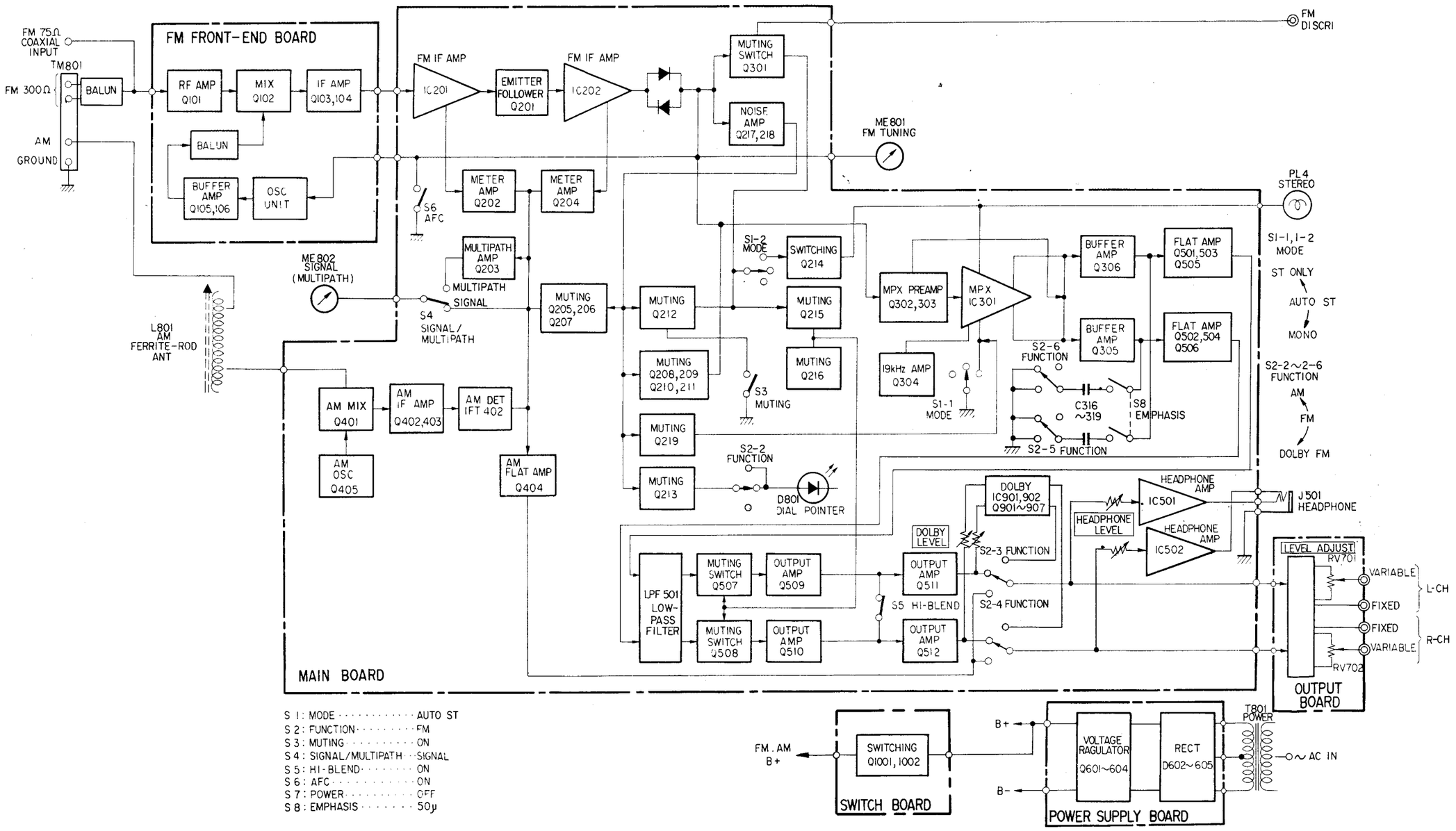
S/N Ratio: 50 dB at 50 mV/m

Harmonic Distortion: 0.5 % at 50 mV/m, 400 Hz

* This set is equipped with DOLBY FM circuit.
'Dolby' and the double-D symbol are the trade marks of Dolby Laboratory Inc. Noise reduction system manufactured under license from Dolby Laboratory Inc.

SONY®
SERVICE MANUAL

SECTION 1
BLOCK DIAGRAM



S 1 : MODE ..... AUTO ST
S 2 : FUNCTION ..... FM
S 3 : MUTING ..... ON
S 4 : SIGNAL/MULTIPATH ..SIGNAL
S 5 : HI-BLEND ..... ON
S 6 : AFC ..... ON
S 7 : POWER ..... OFF
S 8 : EMPHASIS 50μ

SECTION 2

ALIGNMENTS AND ADJUSTMENTS

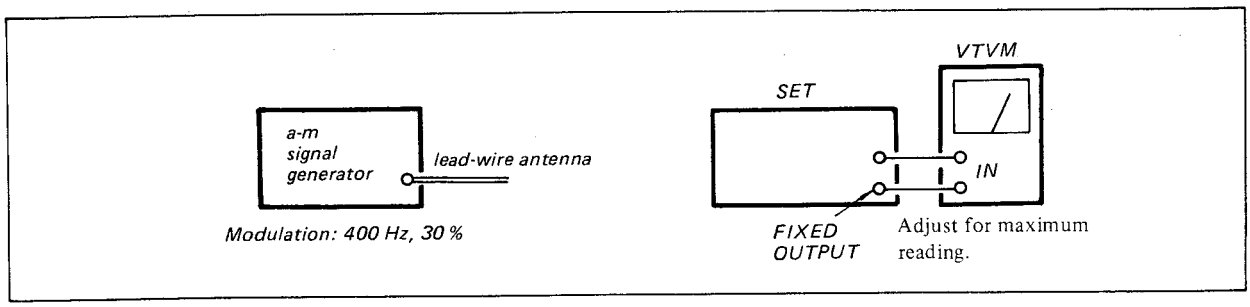
FM FREQUENCY COVERAGE AND TRACKING ALIGNMENT

Never attempt alignment of the fm front-end section for the fm frequency coverage and tracking alignment. If the fm frequency coverage alignment is required, replace the fm front-end board.

In the case of tracking alignment, ask your nearest SONY Service Station to send your set to the Factory Service Center.

AM FREQUENCY COVERAGE AND AM TRACKING ALIGNMENT

Setup:

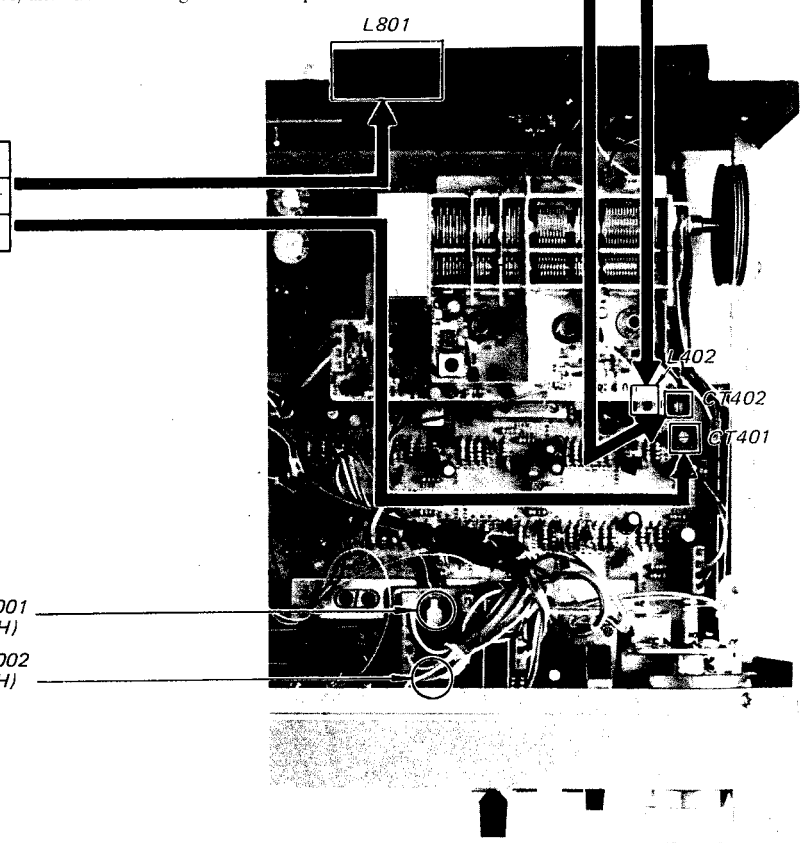


Step	AM FREQUENCY COVERAGE ALIGNMENT	DIAL INDICATION
1.	L402 (550 kHz)	550 kHz
2.	CT402 (1,600 kHz)	1,600 kHz

Note: Repeat step 1 and 2 several times, and finish the alignment at step 2.

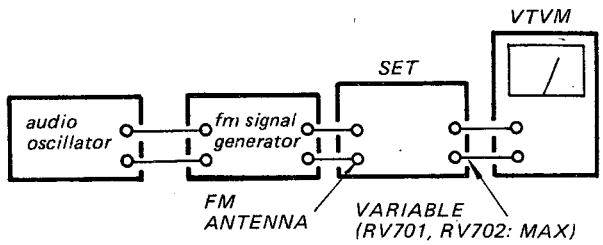
Step	AM TRACKING ALIGNMENT
1.	L801 (600 kHz)
2.	CT401 (1,400 kHz)

Note: Repeat step 1 and 2 several times, and finish the alignment at step 2.



FM DOLBY ADJUSTMENT

Setup:



FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	See the following procedures.
Output level:	1 mV (60 dB)
FUNCTION switch:	FM DOLBY

Procedure:

A) DOLBY LEVEL ADJUSTMENT

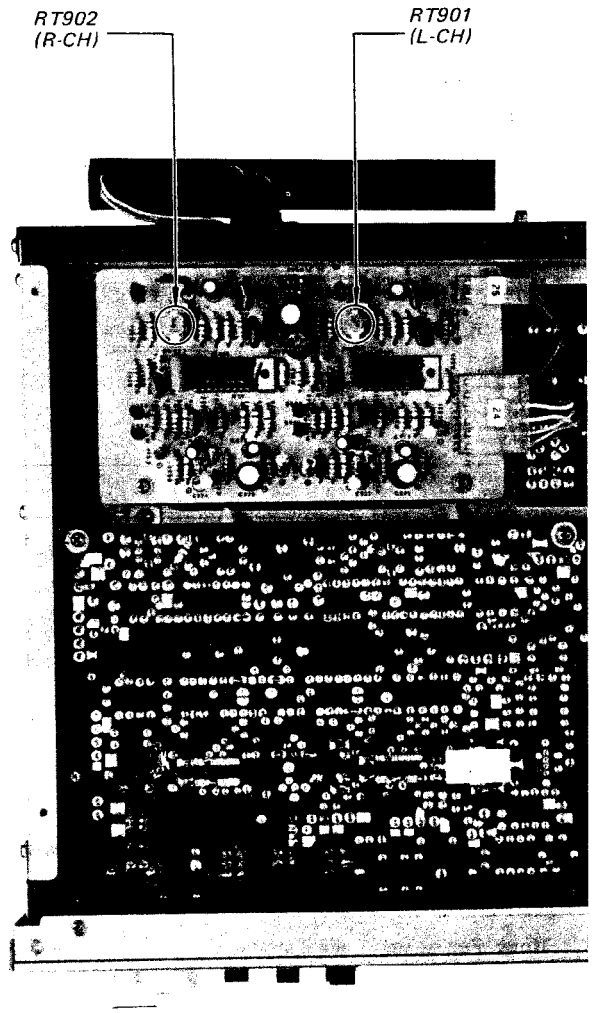
Modulation: 400 Hz, 75 kHz deviation (100 %)

1. Tune the set to 98 MHz.
2. Adjust RT1001 (R-CH) and RT1002 (L-CH) for 2 V (8.2 dB) reading on the VTVM.

B) DOLBY ACTUATING POINT ADJUSTMENT

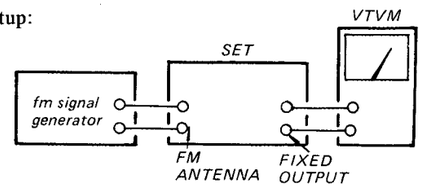
1. Change the modulation to 5,000 Hz.
2. Lower the modulation level so that the VTVM reading drops 25.9 dB from the level obtained at the above DOLBY level adjustment.
3. Adjust RT901 (L-CH) and RT902 (R-CH) so that the VTVM reading drops 36 ± 1 dB from the output level obtained at the above DOLBY level adjustment.

FM DOLBY ACTUATING POINT ADJUSTMENT



FM OUTPUT LEVEL ADJUSTMENT

Setup:



FM Signal Generator Setting:

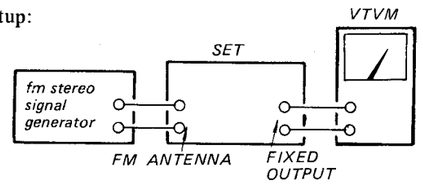
Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)

Procedure:

Adjust RT503 (R-CH) and RT504 (L-CH) for 750 mV (−0.3 dB) reading on the VTVM.

FM STEREO SEPARATION ADJUSTMENT

Setup:



FM Stereo Signal Generator Setting:

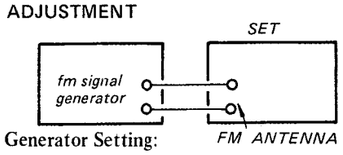
Main carrier frequency:	98 MHz
Output level:	1 mV (60 dB)
Mode:	Stereo
Audio (400 Hz) Mod:	67.5 kHz deviation (90 %)
Pilot (19 kHz) Mod:	7.5 kHz deviation (10 %)
FUNCTION switch:	FM

Procedure:

1. Set the signal generator channel selector to L-CH.
2. Tune the set to 98 MHz.
3. Connect the VTVM to the FIXED OUT "L-CH" of the set and calibrate the VTVM for 0 dB reading.
4. Turn the stereo signal generator channel selector from L-CH to R-CH and adjust RT501 for minimum output on the VTVM.
5. Connect the VTVM to the FIXED OUT "R-CH" of the set and calibrate the VTVM for 0 dB reading.
6. Turn the stereo signal generator channel selector from R-CH to L-CH and adjust RT502 for minimum output on the VTVM.

MUTING ADJUSTMENT

Setup:

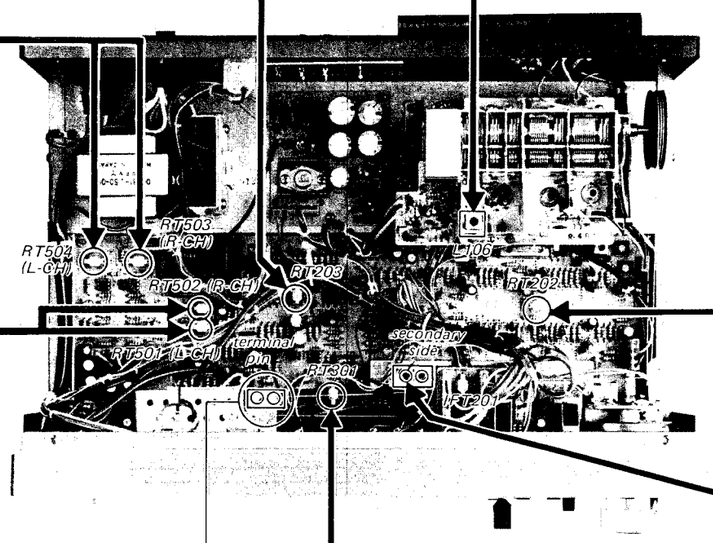


FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)

Procedure:

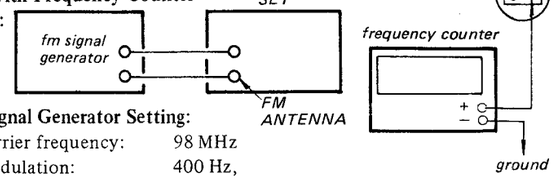
1. Turn the MUTING switch ON.
2. Adjust RT203 so that the muting circuit begins to operate at the symmetrical deflection point of TUNING meter when detuning the tuner to higher or lower frequencies than 98 MHz.



19 kHz ADJUSTMENT

A) With Frequency Counter

Setup:



FM Signal Generator Setting:

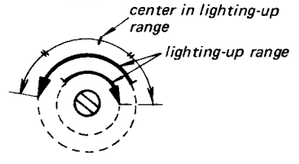
Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)
FUNCTION switch:	FM

Procedure:

1. Tune the set to 98 MHz.
2. Adjust RT301 for 19 kHz ± 100 Hz on the counter.

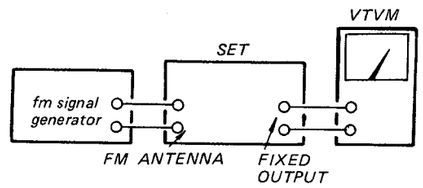
B) Without Frequency Counter

1. Tune the set to FM stereo signals.
2. Turn RT301 clockwise or counterclockwise and secure RT301 at the center in lighting-up range of stereo lamp as shown below.



FM IF ALIGNMENT

Setup:



FM Signal Generator Setting:

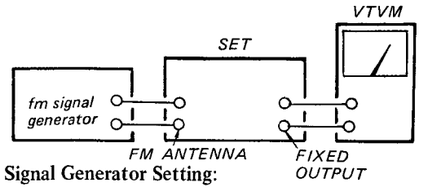
Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	Measurable minimum.

Procedure:

Tune the set to 98 MHz and adjust L106 for maximum reading on the VTVM.

SIGNAL METER ADJUSTMENT

Setup:

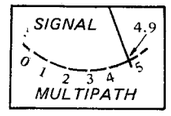


FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	3.2 mV (70 dB)

Procedure:

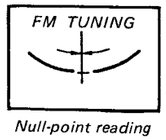
Tune the set to 98 MHz and adjust RT202 for specified pointer position (See figure below.) on the SIGNAL meter.



FM DISCRIMINATOR ALIGNMENT

Procedure:

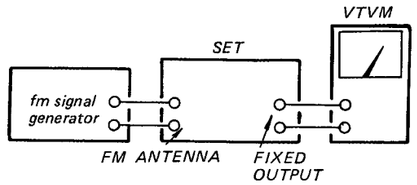
1. Detune the set.
2. Turn the core (secondary side) of IFT201 for null-point reading on the FM TUNING meter.



Null-point reading

FM IF ALIGNMENT

Setup:

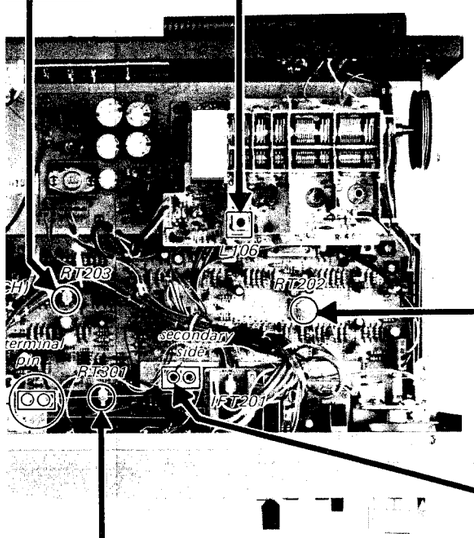


FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	Measurable minimum.

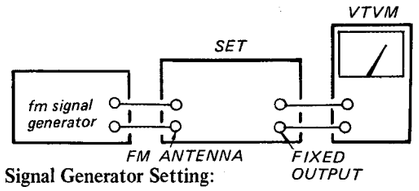
Procedure:

Tune the set to 98 MHz and adjust L106 for maximum reading on the VTVM.



SIGNAL METER ADJUSTMENT

Setup:

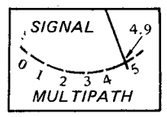


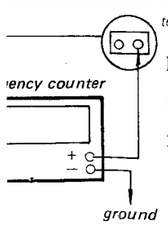
FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	3.2 mV (70 dB)

Procedure:

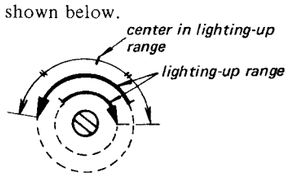
Tune the set to 98 MHz and adjust RT202 for specified pointer position (See figure below.) on the SIGNAL meter.





B) Without Frequency Counter

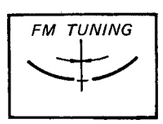
1. Tune the set to FM stereo signals.
2. Turn RT301 clockwise or counterclockwise and secure RT301 at the center in lighting-up range of stereo lamp as shown below.



FM DISCRIMINATOR ALIGNMENT

Procedure:

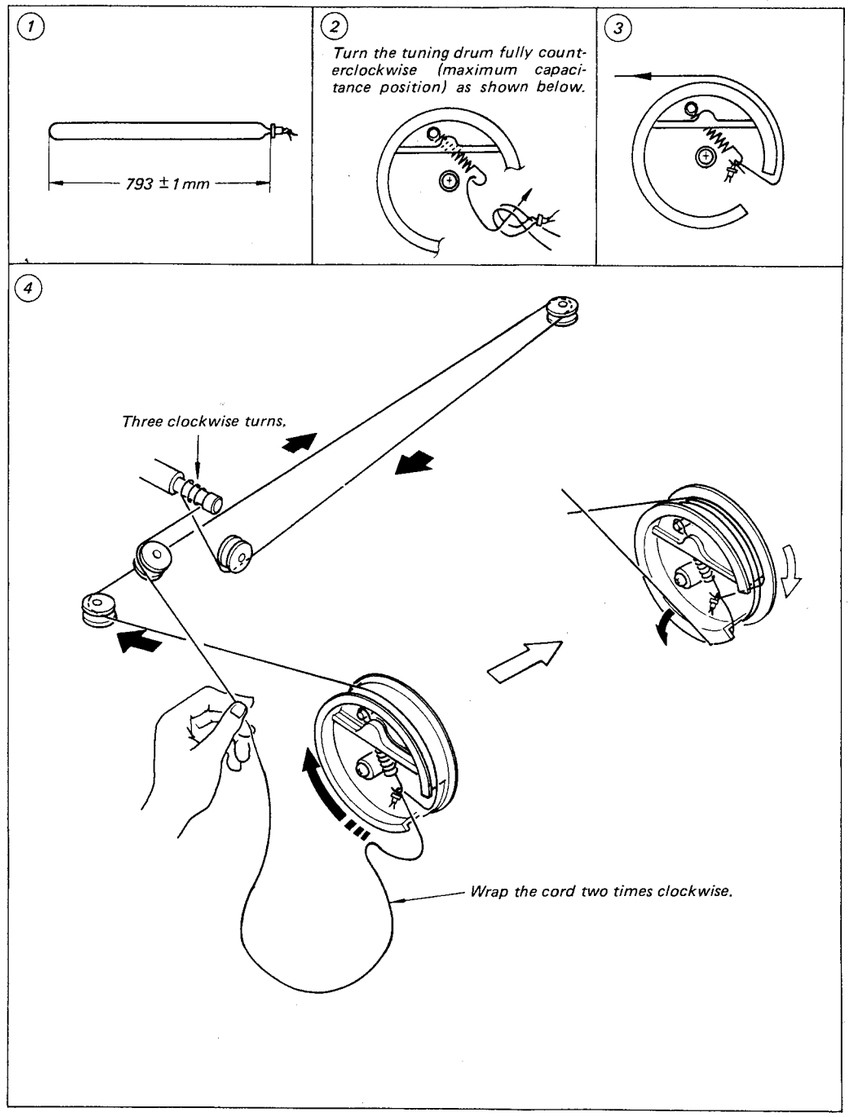
1. Detune the set.
2. Turn the core (secondary side) of IFT201 for null-point reading on the FM TUNING meter.



Null-point reading

SECTION 3

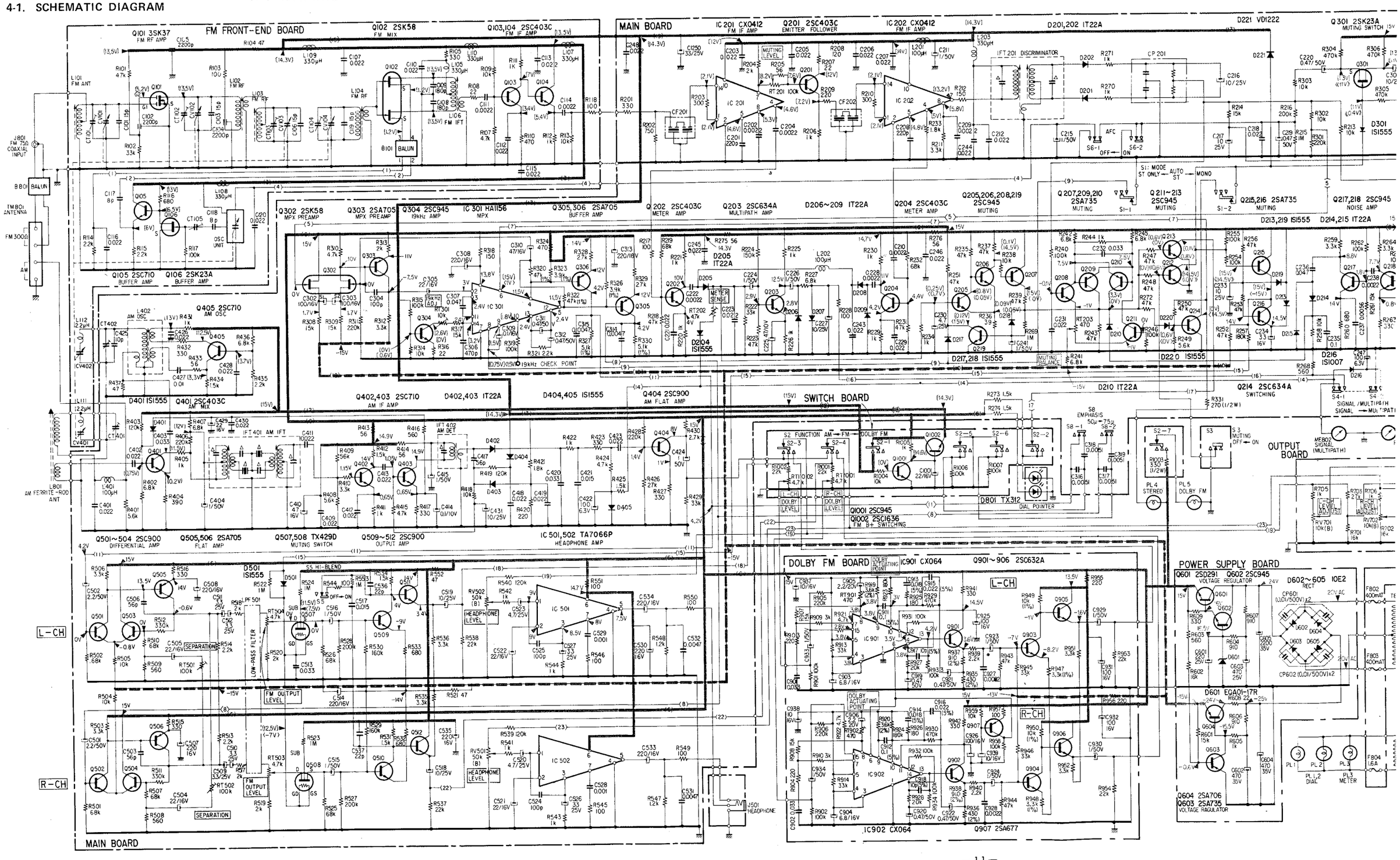
DIAL CORD STRINGING

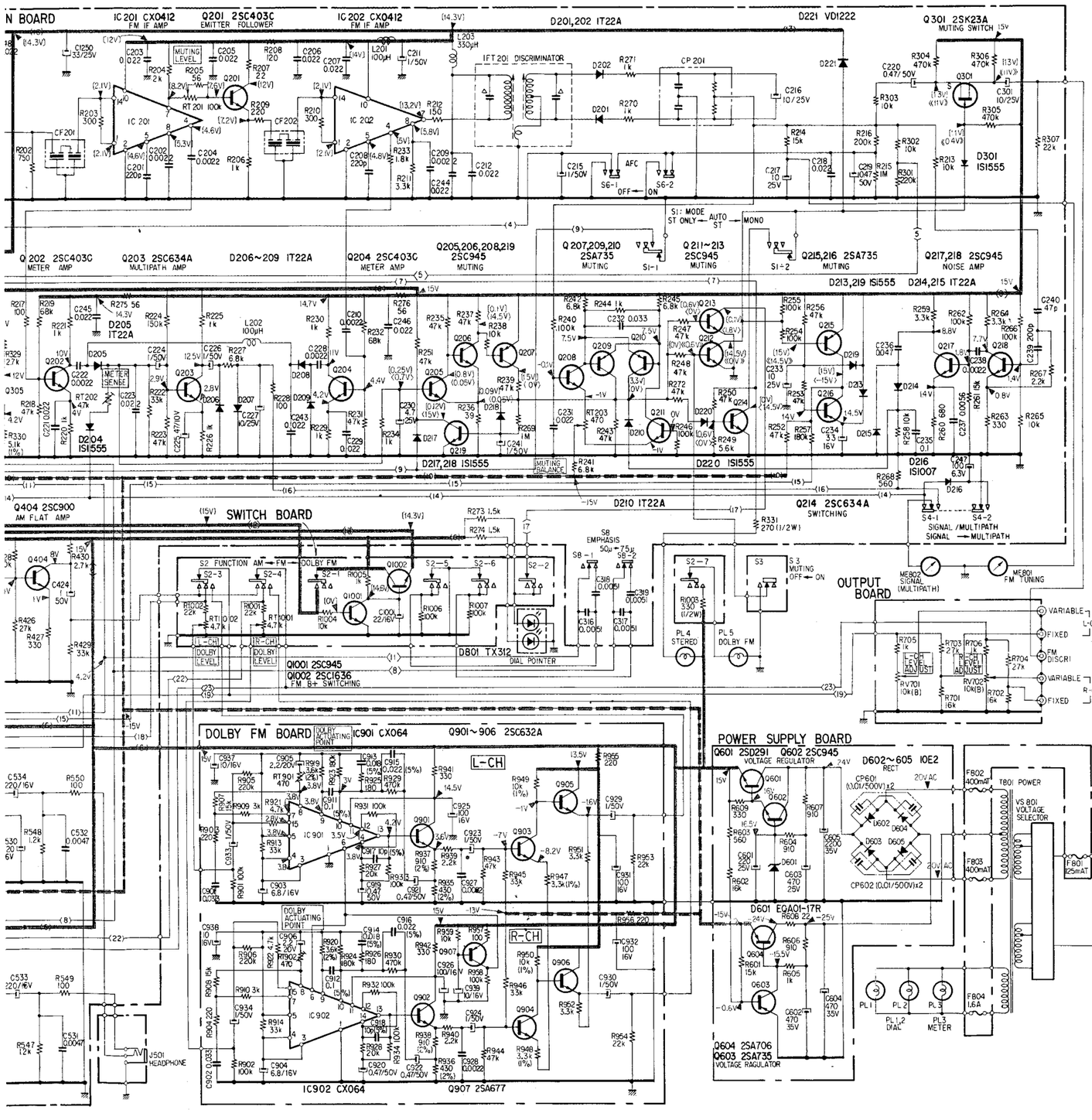


SECTION 4

DIAGRAMS

4-1. SCHEMATIC DIAGRAM





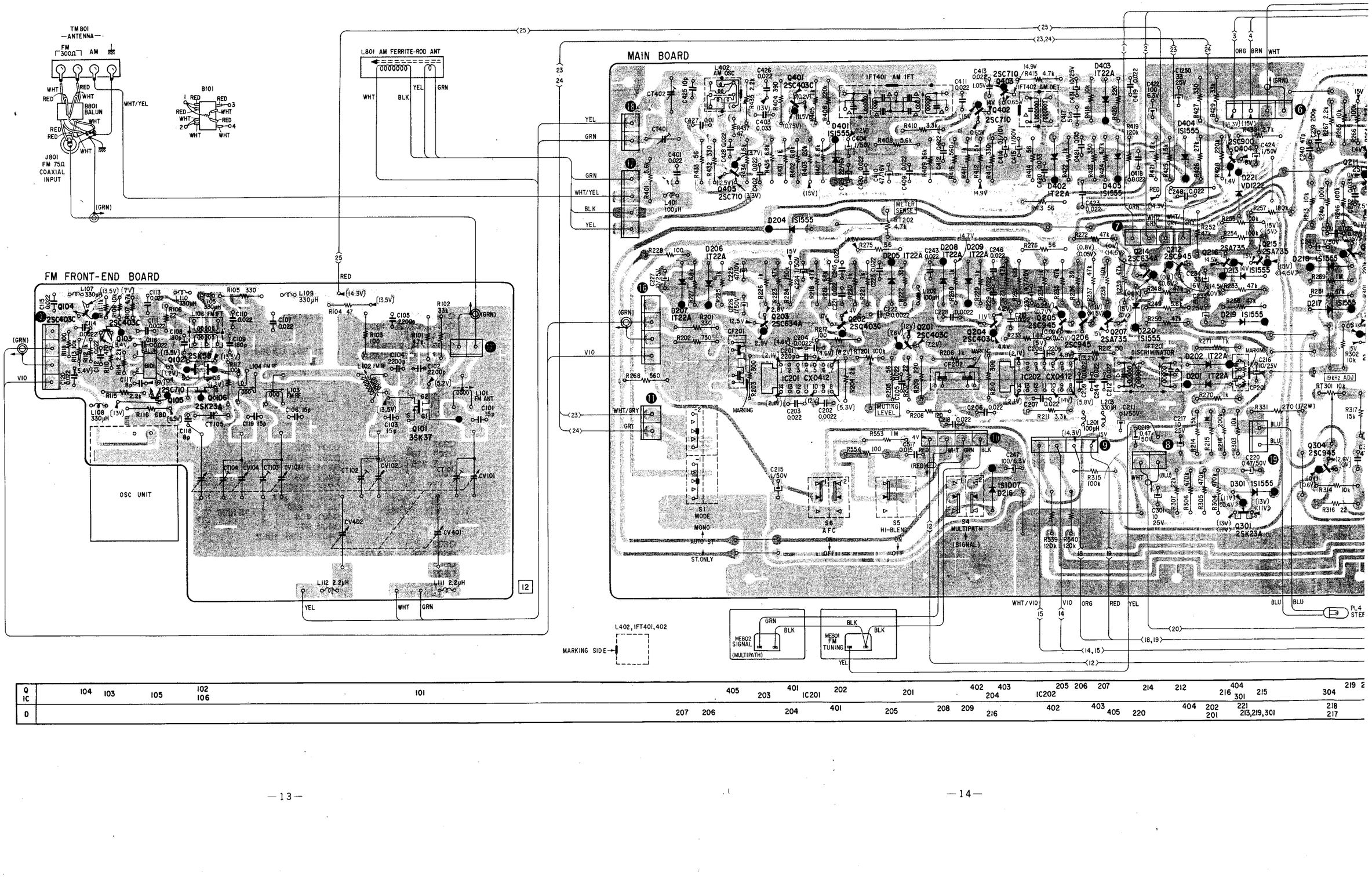
Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. P = μμF
- All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000k
- △ indicates internal componenets.
- ⏚ indicates chassis ground.
- ▬▬ : B+ line ▬ ▬ ▬ : B− line
- (☐ %) of resistors and capacitors indicates the tolerance.
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20 kΩ/V).
  ( ): AM [ ]: FM < >: FM (signal)
  ≪ ≫: MUTING SW (S3) ON
  no mark : common
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings on bias oscillator circuit are taken with a VTVM.
- Switch Mode:

Ref. No.	Switch	Position
S1	MODE	AUTO ST
S2	FUNCTION	FM
S3	MUTING	ON
S4	SIGNAL/MULTIPATH	SIGNAL
S5	HI-BLEND	ON
S6	AFC	ON
S7	POWER	OFF
S8	EMPHASIS	50 μ

4-2. MOUNTING DIAGRAM

– Conductor Side –

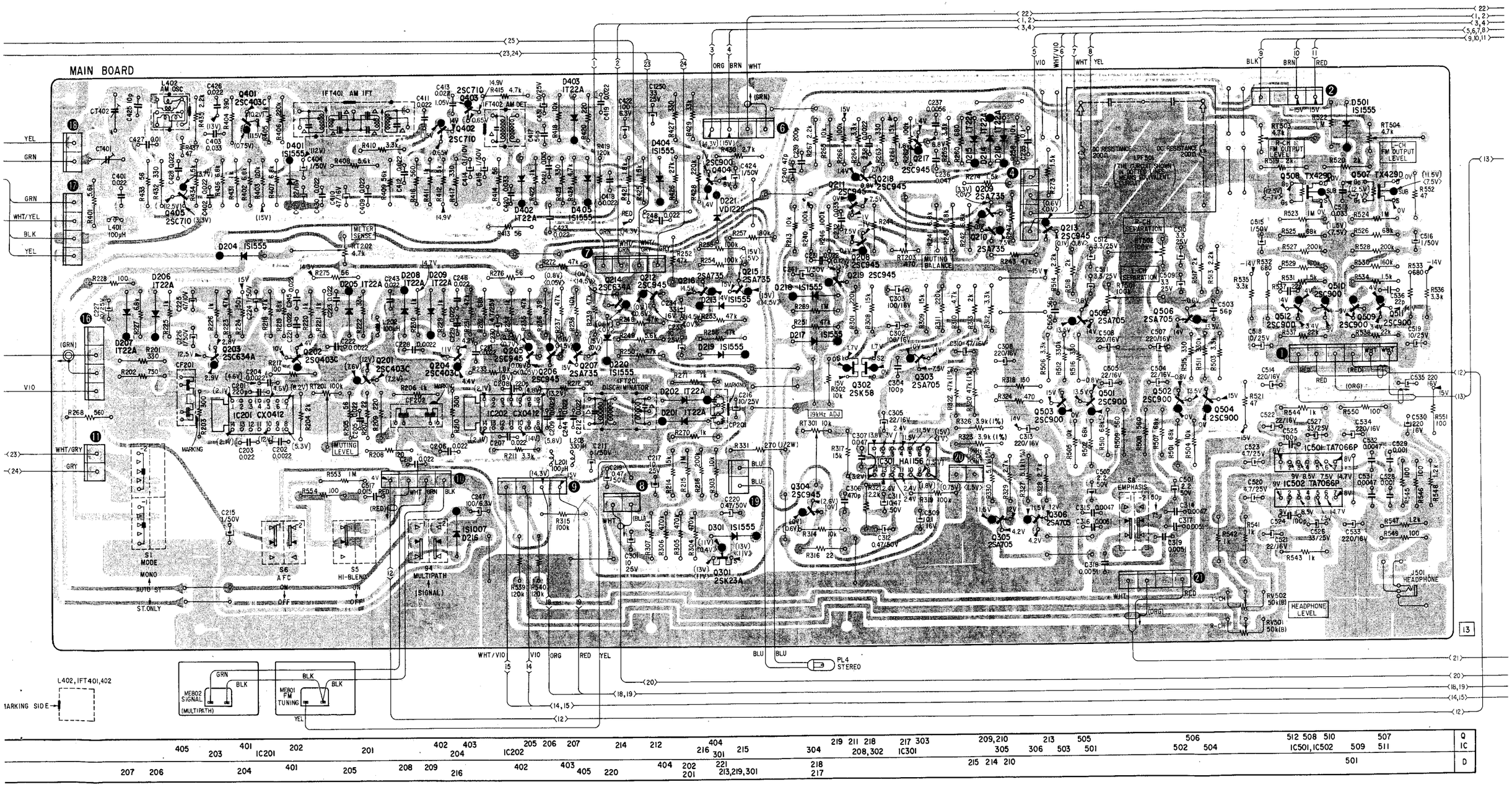


| | | |

ST-5950SD

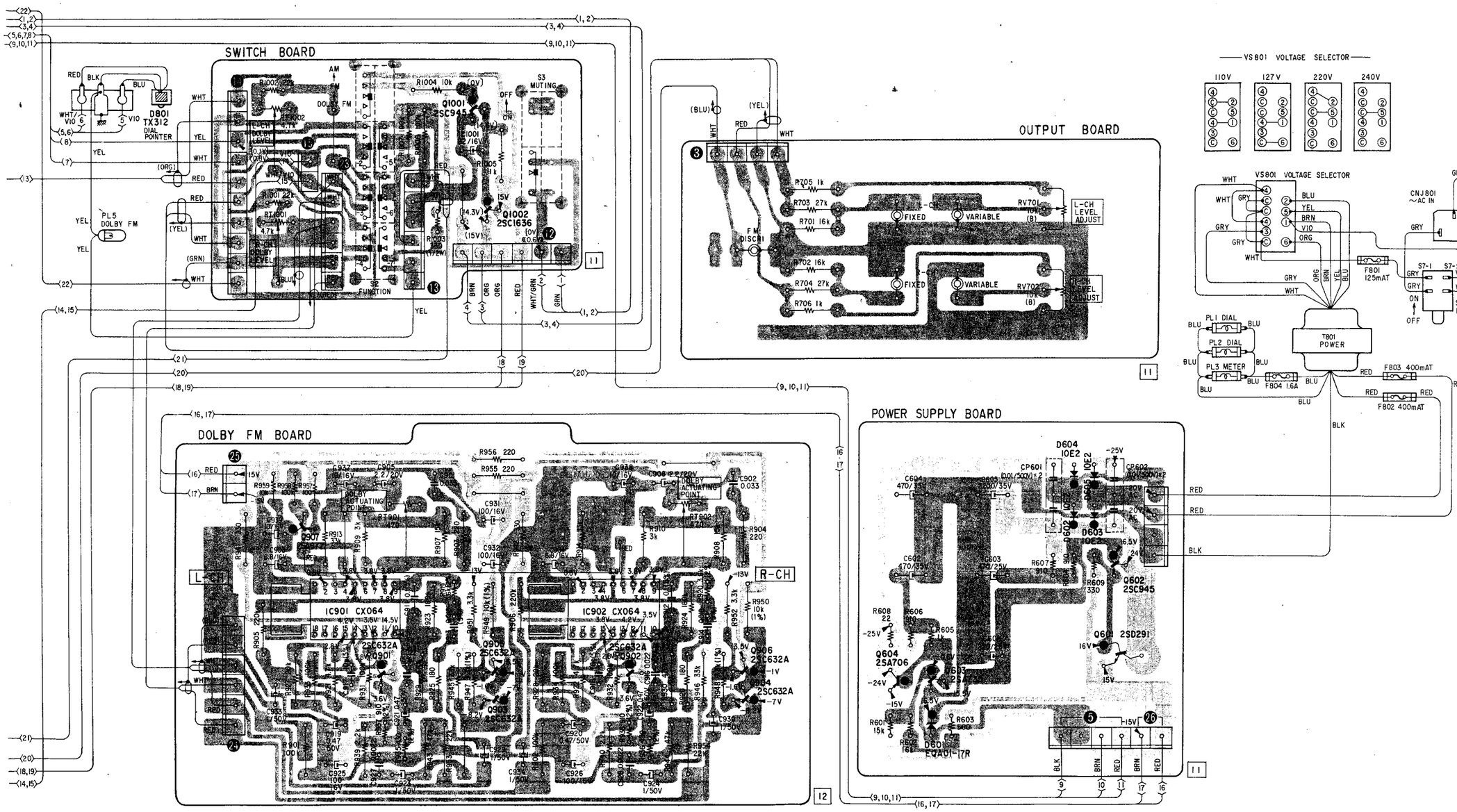
Note:

- Color in ( ) indicates color of sleeving over the end portion of shielded wire.
- : B+ pattern
- : B– pattern

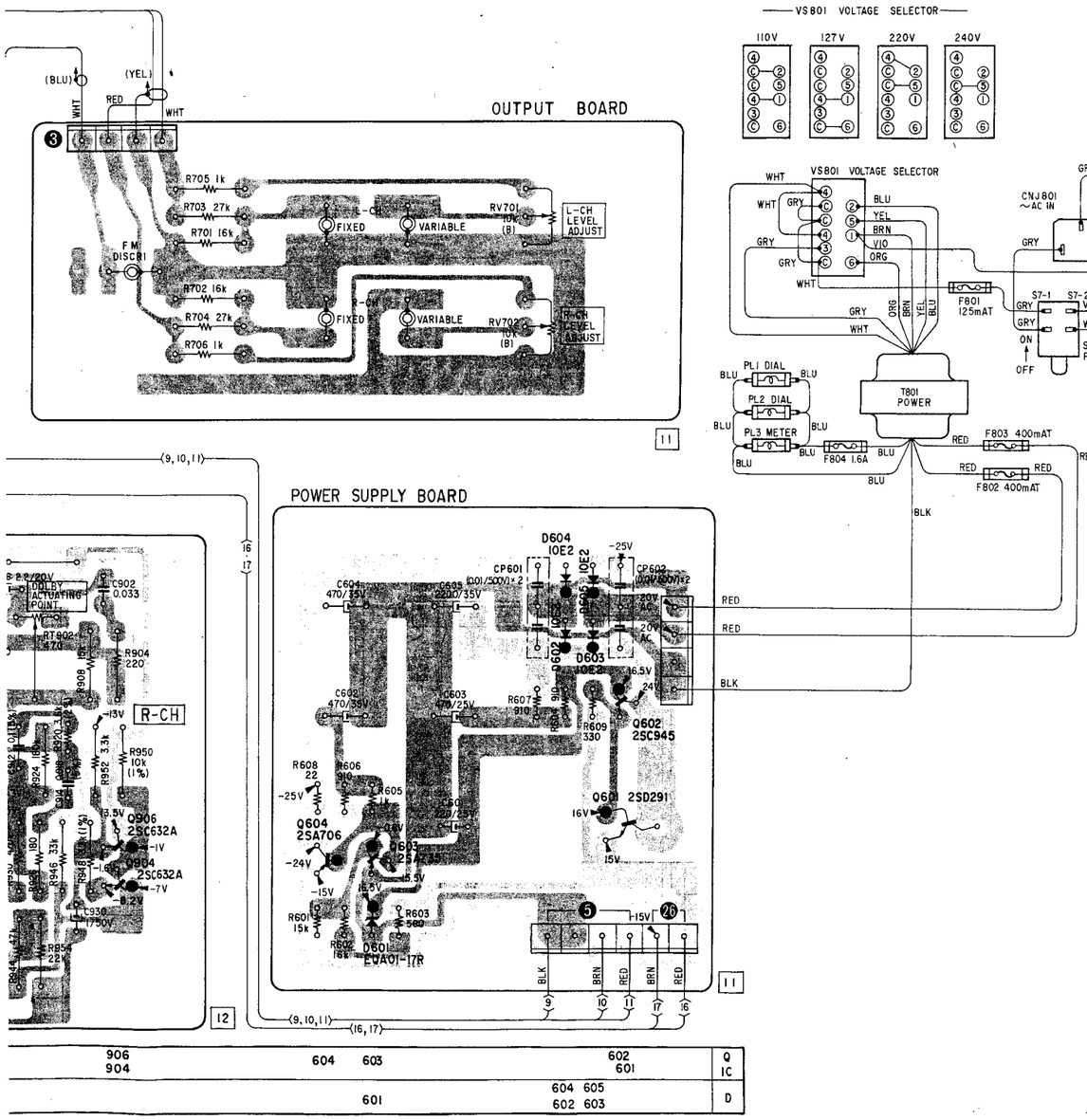


4-3. MOUNTING DIAGRAM

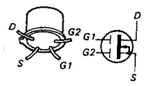
– Conductor Side –



| | | |

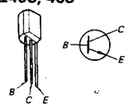


Q101: 3SK37

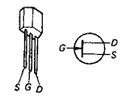


Q102, 302: 2SK58

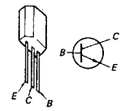
Q105, 402 : 2SC710
Q403, 405



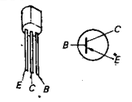
Q106, Q301: 2SK23A



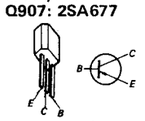
Q103, 104
Q201, 202 } **2SC403C**
Q204, 401
Q203, 214: 2SC634A
Q901 ~ 906: 2SC632A



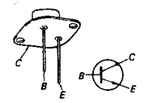
Q207
Q209, 210 } **: 2SA735**
Q215, 216
Q603



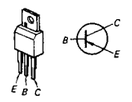
Q303
Q305, 306 } **: 2SA705**
Q505, 506
Q907: 2SA677



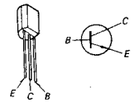
Q601: 2SD291



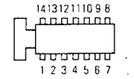
Q604: 2SA706



Q205, 206, 208
Q211 ~ 213
Q217 ~ 219
Q304, 602
Q1001
Q1002: 2SC1636 } **: 2SC945**



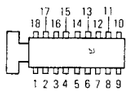
IC201, 202: CX0412



(Top view)

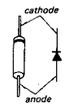
IC501, 502: TA7066P

IC901, 902: CX064

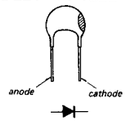


(Top view)

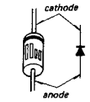
D201, 202
D205 ~ 210
D214, 215
D402, 403 } **: 1T22A**
D216: 1S1007
D204, 213, 301
D217 ~ 220
D401, 404
D405, 501 } **: 1S1555**
D602 ~ 605: 10E2



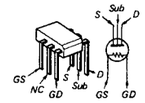
D221: VD1222



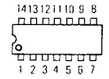
D601: EQA01-17R



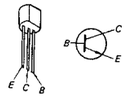
Q507, 508: TX429D



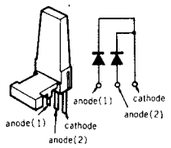
IC301: HA1156



Q404
Q501 ~ 504 } **: 2SC900**
Q509 ~ 512



D801: TX312

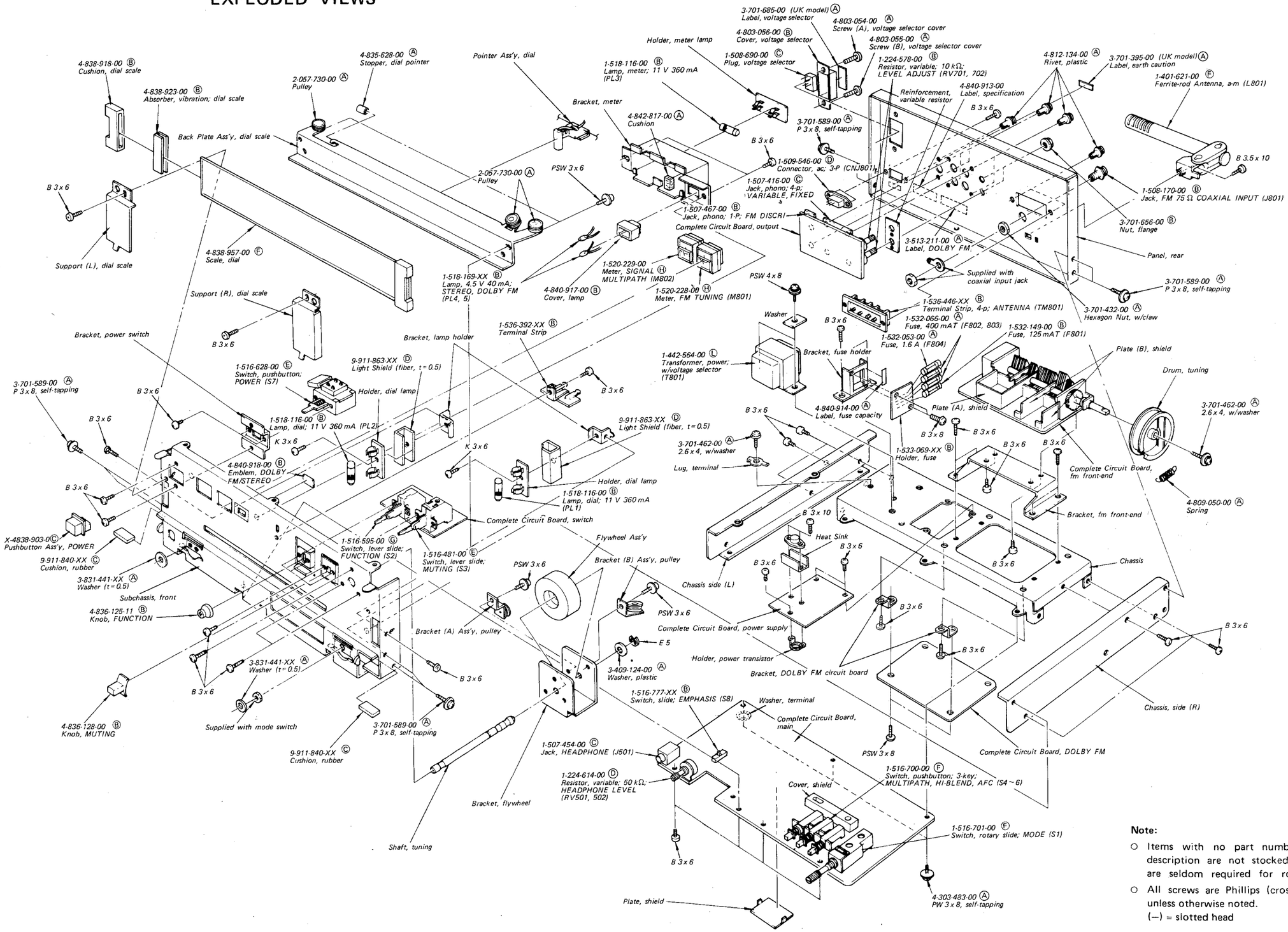


Note:

- Color in ( ) indicates color of sleeving over the end portion of shielded wire.
- : B+ pattern
- : B– pattern

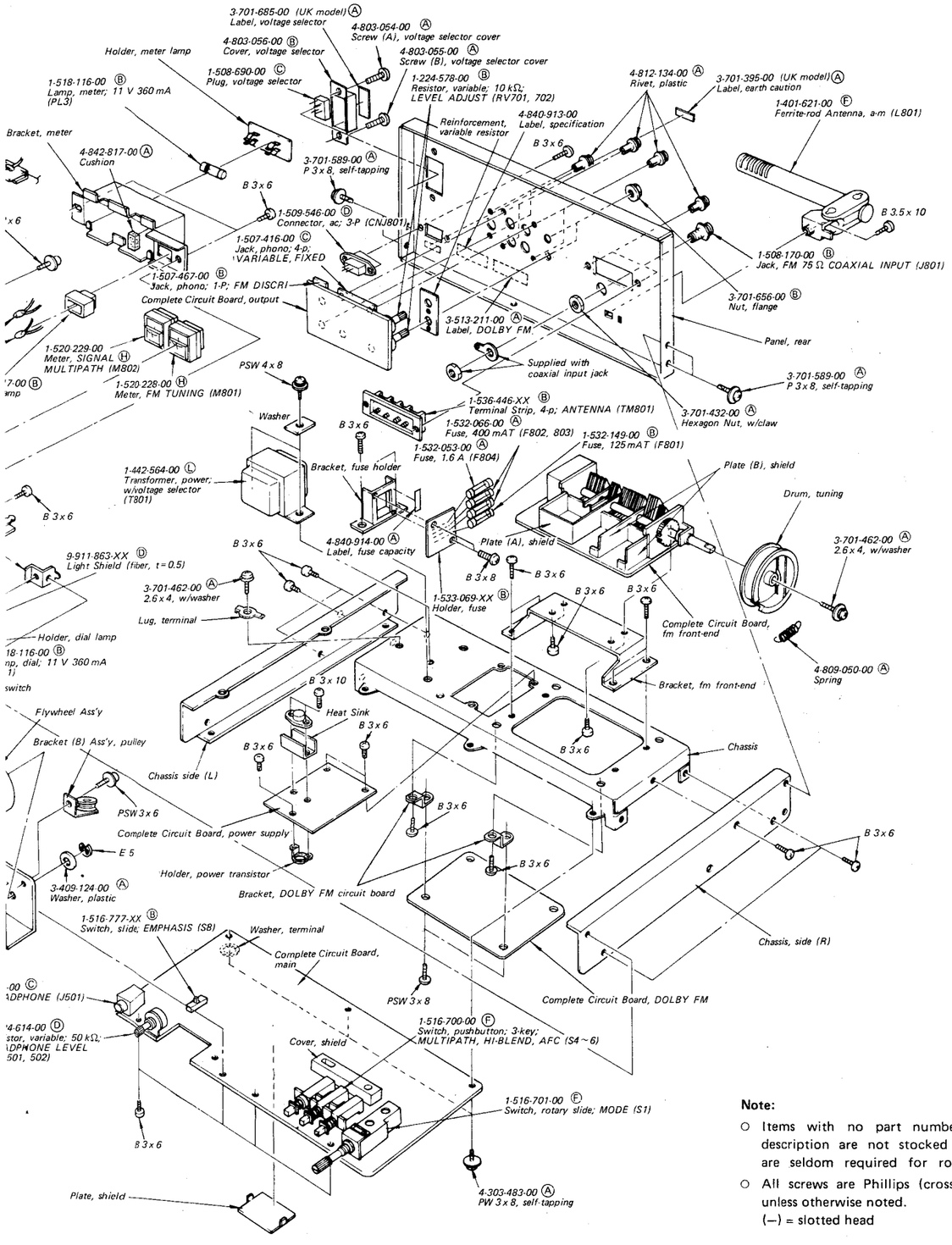
SECTION 5
EXPLODED VIEWS

(1)


4-838-918-00 (B) Cushion, dial scale
4-838-923-00 (B) Absorber, vibration; dial scale
2-057-730-00 (A) Pulley
4-835-628-00 (A) Stopper, dial pointer
Pointer Ass'y, dial
Back Plate Ass'y, dial scale
Bracket, meter
1-518-116-00 (B) Lamp, meter; 11 V 360 mA (PL3)
Holder, meter lamp
4-842-817-00 (A) Cushion
1-508-690-00 (C) Plug, voltage selector
3-701-685-00 (UK model) (A) Label, voltage selector
4-803-054-00 (A) Screw (A), voltage selector cover
4-803-056-00 (B) Cover, voltage selector
4-803-055-00 (A) Screw (B), voltage selector cover
1-224-578-00 (B) Resistor, variable, 10 kΩ; LEVEL ADJUST (RV701, 702)
Reinforcement, variable resistor
4-840-913-00 Label, specification
4-812-134-00 (A) Rivet, plastic
3-701-395-00 (UK model) (A) Label, earth caution
1-401-621-00 (F) Ferrite-rod Antenna, a-m (L801)
B 3.5 x 10
1-508-170-00 (B) Jack, FM 75 Ω COAXIAL INPUT (J801)
3-701-656-00 (B) Nut, flange
3-701-589-00 (A) P 3 x 8, self-tapping
B 3 x 6
PSW 3 x 6
1-509-546-00 (D) Connector, ac; 3-P (CNJ801)
1-507-416-00 (C) Jack, phono; 4-p; VARIABLE, FIXED
1-507-467-00 (B) Jack, phono; 1-P; FM DISCRI
Complete Circuit Board, output
3-513-211-00 (A) Label, DOLBY FM
Panel, rear
Supplied with coaxial input jack
1-536-446-XX (B) Terminal Strip, 4-p; ANTENNA (TM801)
3-701-432-00 (A) Hexagon Nut, w/claw
Support (L), dial scale
4-838-957-00 (F) Scale, dial
Support (R), dial scale
1-518-169-XX (B) Lamp, 4.5 V 40 mA; STEREO, DOLBY FM (PL4, 5)
4-840-917-00 (B) Cover, lamp
1-520-229-00 Meter, SIGNAL (H) MULTIPATH (M802)
1-520-228-00 (H) Meter, FM TUNING (M801)
PSW 4 x 8
Washer
1-442-564-00 (L) Transformer, power; w/voltage selector (T801)
Bracket, power switch
Bracket, lamp holder
1-536-392-XX (B) Terminal Strip
1-516-628-00 (E) Switch, pushbutton; POWER (S7)
9-911-863-XX (D) Light Shield (fiber, t = 0.5)
Holder, dial lamp
1-518-116-00 (B) Lamp, dial; 11 V 360 mA (PL2)
K 3 x 6
4-840-918-00 (B) Emblem, DOLBY FM/STEREO
1-518-116-00 (B) Lamp, dial; 11 V 360 mA (PL1)
Complete Circuit Board, switch
X-4838-903-0 (C) Pushbutton Ass'y, POWER
9-911-840-XX (C) Cushion, rubber
3-831-441-XX (A) Washer (t = 0.5)
Subchassis, front
4-836-125-11 (B) Knob, FUNCTION
1-516-595-00 (G) Switch, lever slide; FUNCTION (S2)
1-516-481-00 (E) Switch, lever slide; MUTING (S3)
Flywheel Ass'y
Bracket (B) Ass'y, pulley
PSW 3 x 6
Bracket (A) Ass'y, pulley
E 5
3-409-124-00 (A) Washer, plastic
Holder, power transistor
Bracket, DOLBY FM circuit board
Complete Circuit Board, power supply
Chassis side (L)
Heat Sink
Chassis
Chassis, side (R)
Complete Circuit Board, DOLBY FM
1-516-777-XX (B) Switch, slide; EMPHASIS (S8)
Washer, terminal
Complete Circuit Board, main
PSW 3 x 8
1-507-454-00 (C) Jack, HEADPHONE (J501)
1-224-614-00 (D) Resistor, variable; 50 kΩ; HEADPHONE LEVEL (RV501, 502)
Cover, shield
1-516-700-00 (F) Switch, pushbutton; 3-key; MULTIPATH, HI-BLEND, AFC (S4 ~ 6)
1-516-701-00 (F) Switch, rotary slide; MODE (S1)
4-303-483-00 (A) PW 3 x 8, self-tapping
Plate, shield
Shaft, tuning
Bracket, flywheel
3-831-441-XX (A) Washer (t = 0.5)
4-836-128-00 (B) Knob, MUTING
Supplied with mode switch
9-911-840-XX (C) Cushion, rubber
3-701-589-00 (A) P 3 x 8, self-tapping
1-532-066-00 (A) Fuse, 400 mAT (F802, 803)
1-532-053-00 (A) Fuse, 1.6 A (F804)
1-532-149-00 (B) Fuse, 125 mAT (F801)
Bracket, fuse holder
4-840-914-00 (A) Label, fuse capacity
1-533-069-XX (B) Holder, fuse
Plate (A), shield
Plate (B), shield
Drum, tuning
3-701-462-00 (A) 2.6 x 4, w/washer
Lug, terminal
Complete Circuit Board, fm front-end
Bracket, fm front-end
4-809-050-00 (A) Spring
B 3 x 10

Note:

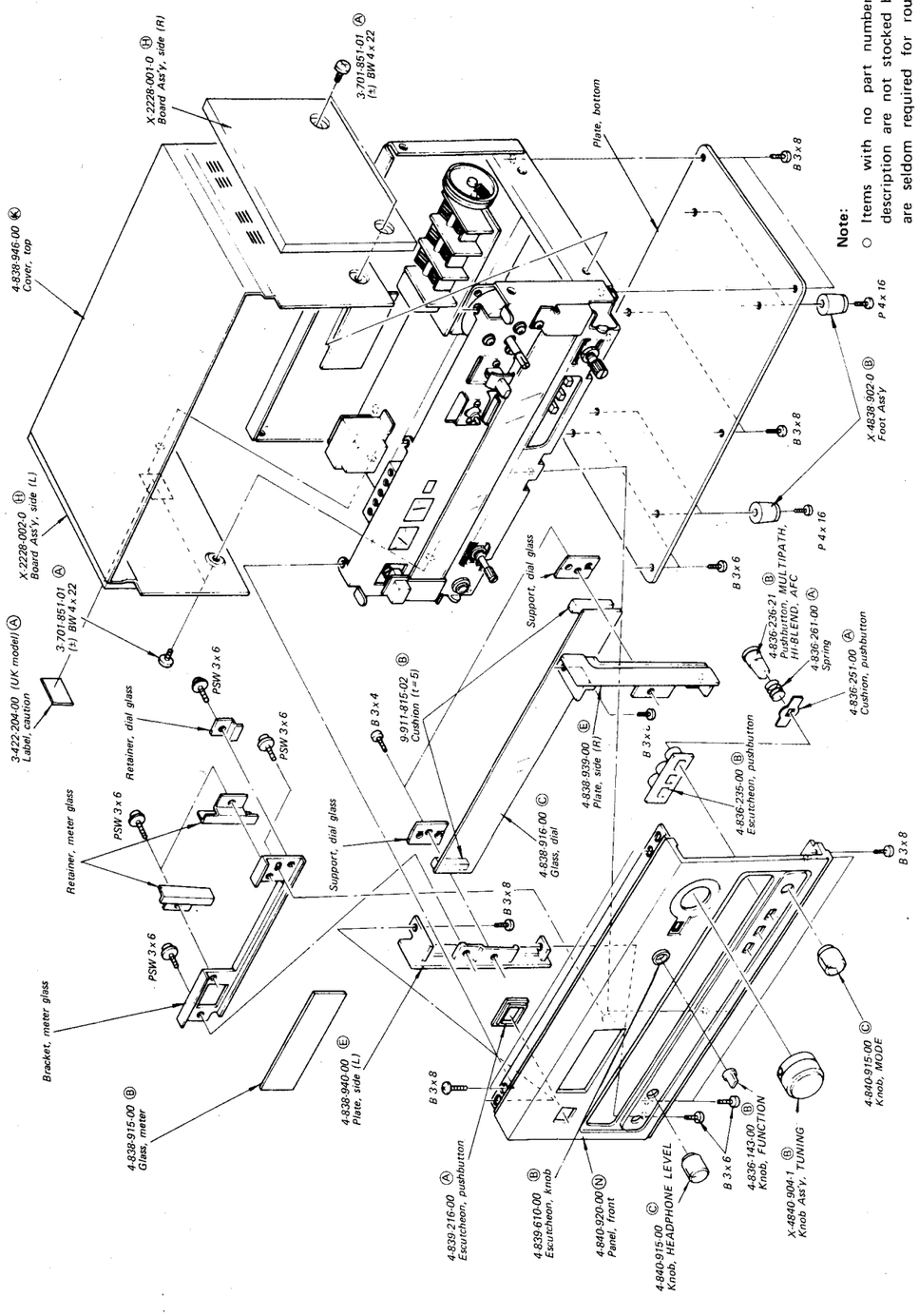
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head


3-701-685-00 (UK model) Ⓐ Label, voltage selector
4-803-054-00 Ⓐ Screw (A), voltage selector cover
4-803-056-00 Ⓑ Cover, voltage selector
4-803-055-00 Ⓐ Screw (B), voltage selector cover
Holder, meter lamp
1-508-690-00 Ⓒ Plug, voltage selector
1-224-578-00 Ⓑ Resistor, variable; 10 kΩ; LEVEL ADJUST (RV701, 702)
4-812-134-00 Ⓐ Rivet, plastic
3-701-395-00 (UK model) Ⓐ Label, earth caution
1-401-621-00 Ⓕ Ferrite-rod Antenna, a-m (L801)
1-518-116-00 Ⓑ Lamp, meter; 11 V 360 mA (PL3)
Bracket, meter
4-842-817-00 Ⓐ Cushion
Reinforcement, variable resistor
4-840-913-00 Label, specification
B 3 x 6
3-701-589-00 Ⓐ P 3 x 8, self-tapping
B 3 x 6
B 3.5 x 10
1-509-546-00 Ⓓ Connector, ac; 3-P (CNJ801)
1-507-416-00 Ⓒ Jack, phono; 4-p; VARIABLE, FIXED
1-508-170-00 Ⓑ Jack, FM 75 Ω COAXIAL INPUT (J801)
1-507-467-00 Ⓑ Jack, phono; 1-P; FM DISCRI
Complete Circuit Board, output
3-701-656-00 Ⓑ Nut, flange
3-513-211-00 Ⓐ Label, DOLBY FM
Panel, rear
1-520-229-00 Meter, SIGNAL Ⓗ MULTIPATH (M802)
Supplied with coaxial input jack
3-701-589-00 Ⓐ P 3 x 8, self-tapping
1-520-228-00 Ⓗ Meter, FM TUNING (M801)
PSW 4 x 8
1-536-446-XX Ⓑ Terminal Strip, 4-p; ANTENNA (TM801)
3-701-432-00 Ⓐ Hexagon Nut, w/claw
Washer
B 3 x 6
1-532-066-00 Ⓐ Fuse, 400 mAT (F802, 803)
1-532-053-00 Ⓐ Fuse, 1.6 A (F804)
1-532-149-00 Ⓑ Fuse, 125 mAT (F801)
Plate (B), shield
Drum, tuning
1-442-564-00 Ⓛ Transformer, power; w/voltage selector (T801)
Bracket, fuse holder
B 3 x 6
4-840-914-00 Ⓐ Label, fuse capacity
Plate (A), shield
3-701-462-00 Ⓐ 2.6 x 4, w/washer
9-911-863-XX Ⓓ Light Shield (fiber, t = 0.5)
B 3 x 6
B 3 x 8
B 3 x 6
B 3 x 6
3-701-462-00 Ⓐ 2.6 x 4, w/washer
1-533-069-XX Ⓑ Holder, fuse
Lug, terminal
Complete Circuit Board, fm front-end
Holder, dial lamp
4-809-050-00 Ⓐ Spring
18-116-00 Ⓑ np, dial; 11 V 360 mA 1)
B 3 x 10
Bracket, fm front-end
switch
Heat Sink
Flywheel Ass'y
B 3 x 6
B 3 x 6
Chassis
Bracket (B) Ass'y, pulley
Chassis side (L)
B 3 x 6
PSW 3 x 6
Complete Circuit Board, power supply
B 3 x 6
E 5
B 3 x 6
Holder, power transistor
3-409-124-00 Ⓐ Washer, plastic
Bracket, DOLBY FM circuit board
1-516-777-XX Ⓑ Switch, slide; EMPHASIS (S8)
Washer, terminal
Chassis, side (R)
00 Ⓒ ADPHONE (J501)
Complete Circuit Board, main
Complete Circuit Board, DOLBY FM
PSW 3 x 8
4-614-00 Ⓓ stor, variable; 50 kΩ; ADPHONE LEVEL 501, 502)
1-516-700-00 Ⓕ Switch, pushbutton; 3-key; MULTIPATH, HI-BLEND, AFC (S4 ~ 6)
Cover, shield
1-516-701-00 Ⓕ Switch, rotary slide; MODE (S1)
B 3 x 6
4-303-483-00 Ⓐ PW 3 x 8, self-tapping
Plate, shield

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (—) = slotted head

(2)


X-2228-001-0 Ⓗ Board Ass'y, side (R)
3-701-851-01 Ⓐ (±) BW 4 x 22
Plate, bottom
B 3 x 8
4-838-946-00 Ⓚ Cover, top
P 4 x 16
X-4838-902-0 Ⓑ Foot Ass'y
B 3 x 8
X-2228-002-0 Ⓗ Board Ass'y, side (L)
3-701-851-01 Ⓐ (±) BW 4 x 22
P 4 x 16
B 3 x 6
Support, dial glass
4-836-236-21 Ⓑ Pushbutton, MULTIPATH, HI-BLEND, AFC
4-836-261-00 Ⓐ Spring
4-836-251-00 Ⓐ Cushion, pushbutton
3-422-204-00 (UK model) Ⓐ Label, caution
PSW 3 x 6
Retainer, dial glass
PSW 3 x 6
B 3 x 4
9-911-815-02 Ⓑ Cushion (t = 5)
4-838-939-00 Ⓔ Plate, side (R)
B 3 x 4
4-836-235-00 Ⓑ Escutcheon, pushbutton
Retainer, meter glass
PSW 3 x 6
Support, dial glass
4-838-916-00 Ⓒ Glass, dial
B 3 x 8
PSW 3 x 6
B 3 x 8
Bracket, meter glass
4-838-940-00 Ⓔ Plate, side (L)
B 3 x 8
4-838-915-00 Ⓑ Glass, meter
4-839-216-00 Ⓐ Escutcheon, pushbutton
4-839-610-00 Ⓑ Escutcheon, knob
4-840-920-00 Ⓝ Panel, front
4-840-915-00 Ⓒ Knob, HEADPHONE LEVEL
B 3 x 6
4-836-143-00 Ⓑ Knob, FUNCTION
X-4840-904-1 Ⓖ Knob Ass'y, TUNING
4-840-915-00 Ⓒ Knob, MODE

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (—) = slotted head

SECTION 6

ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
		SEMICONDUCTORS
		Transistors
Q101	Ⓔ	3SK37
Q102	Ⓕ	2SK58
Q103, 104	Ⓑ	2SC403C
Q105	Ⓑ	2SC710
Q106	Ⓒ	2SK23A
Q201, 202	Ⓑ	2SC403C
Q203	Ⓑ	2SC634A
Q204	Ⓑ	2SC403C
Q205, 206	Ⓑ	2SC945
Q207	Ⓒ	2SA735
Q208	Ⓑ	2SC945
Q209, 210	Ⓒ	2SA735
Q211～213	Ⓑ	2SC945
Q214	Ⓑ	2SC634A
Q215, 216	Ⓒ	2SA735
Q217～219	Ⓑ	2SC945
Q301	Ⓒ	2SK23A
Q302	Ⓕ	2SK58
Q303	Ⓑ	2SA705
Q304	Ⓑ	2SC945
Q305, 306	Ⓑ	2SA705
Q401	Ⓑ	2SC403C
Q402, 403	Ⓑ	2SC710
⇒Q404	Ⓑ	2SC632A
Q405	Ⓑ	2SC710
⇒Q501～504	Ⓑ	2SC632A
Q505, 506	Ⓑ	2SA705
Q507, 508	Ⓕ	TX429D
⇒Q509～512	Ⓑ	2SC632A
Q601	Ⓓ	2SD291
Q602	Ⓑ	2SC945
Q603	Ⓒ	2SA735
Q604	Ⓓ	2SA706
Q901～906	Ⓑ	2SC632A
⇒Q907	Ⓒ	2SA678
Q1001	Ⓑ	2SC945
Q1002	Ⓑ	2SC1636

Ref. No.	Part No.	Description
		ICs
IC201, 202	Ⓕ	CX0412
IC301	Ⓙ	HA1156
IC501, 502	Ⓓ	TA7066P
IC901, 902	Ⓘ	CX064
		Diodes
D201, 202	Ⓑ	IT22A
D204	Ⓑ	1S1555
D205～210	Ⓑ	1T22A
D213	Ⓑ	1S1555
D214, 215	Ⓑ	1T22A
D216	Ⓑ	1S1007
D217～220	Ⓑ	1S1555
D221	Ⓑ	VD1222
D301	Ⓑ	1S1555
D401	Ⓑ	1S1555
D402, 403	Ⓑ	1T22A
D404, 405	Ⓑ	1S1555
D501	Ⓑ	1S1555
D601	Ⓑ	EQA01-17R
D602～605	Ⓑ	10E2
D801	Ⓗ	TX312

COILS

L101	1-401-646-00	Ⓑ	FM Antenna
L102	1-425-902-00	Ⓑ	FM RF
L103	1-425-903-00	Ⓑ	FM RF
L104	1-425-904-00	Ⓑ	FM RF
L105	1-407-175-XX	Ⓐ	Microinductor, 330μH
L106	1-404-003-00	Ⓑ	FM IFT
L107～110	1-407-175-XX	Ⓐ	Microinductor, 330μH
L111, 112	1-407-182-XX	Ⓐ	Microinductor, 2.2μH

⇒ Due to replacement parts, the values are different from the diagrams.

Ref. No.	Part No.	Description
L201, 202	1-407-169-XX	Ⓐ Microinductor, 100μH
L203	1-407-175-XX	Ⓐ Microinductor, 330μH
L401	1-407-169-XX	Ⓐ Microinductor, 100μH
L402	1-405-656-00	Ⓑ AM Osc
L801	1-401-621-00	Ⓕ AM Ferrite-rod Antenna
		TRANSFORMERS
B101	1-417-025-00	Ⓐ Balun
B801	1-417-014-21	Ⓐ Balun
IFT201	1-403-964-00	Ⓒ Discriminator
IFT401	1-403-963-21	Ⓔ AM IFT
IFT402	1-403-149-00	Ⓑ Detector IFT
T801	1-442-564-00	Ⓛ Power, w/voltage selector (VS801)

CAPACITORS

All capacitors are in μF and of ceramic unless otherwise noted.
(p = μμF, elect = electrolytic)
50 or less working volts are omitted except for electrolytic type.

Ref. No.	Part No.	Description
C101	1-102-668-11	Ⓐ 15 p
C102	1-102-257-11	Ⓐ 2200 p
C103	1-102-668-11	Ⓐ 15 p
C104, 105	1-102-257-11	Ⓐ 2200 p
C106	1-102-668-11	Ⓐ 15 p
C107	1-101-924-11	Ⓐ 0.022
C108, 109	1-102-848-11	Ⓐ 180 p
C110	1-101-924-11	Ⓐ 0.022
C111	1-101-919-11	Ⓐ 0.0022
C112, 113	1-101-924-11	Ⓐ 0.022
C114	1-101-919-11	Ⓐ 0.0022
C115, 116	1-101-924-11	Ⓐ 0.022
C117, 118	1-102-663-11	Ⓐ 8 p
C119	1-102-668-11	Ⓐ 15 p
C120	1-101-924-11	Ⓐ 0.022

Ref. No.	Part No.	Description			
C201	1-102-978-11	Ⓐ 220 p			
C202	1-101-919-11	Ⓐ 0.0022			
C203	1-101-924-11	Ⓐ 0.022			
C204	1-101-919-11	Ⓐ 0.0022			
C205～207	1-101-924-11	Ⓐ 0.022			
C208	1-102-978-11	Ⓐ 220 p			
C209, 210	1-101-919-11	Ⓐ 0.0022			
C211	1-121-391-11	Ⓐ 1	50 V	elect	
C212	1-101-924-11	Ⓐ 0.022			
C215	1-121-391-11	Ⓐ 1	50 V	elect	
C216, 217	1-121-398-11	Ⓐ 10	25 V	elect	
C218	1-101-924-11	Ⓐ 0.022			
C219, 220	1-121-726-11	Ⓐ 0.47	50 V	elect	
C221	1-101-924-11	Ⓐ 0.022			
C222	1-101-919-11	Ⓐ 0.0022			
C223	1-101-924-11	Ⓐ 0.022			
C224	1-121-391-11	Ⓐ 1	50 V	elect	
C225	1-121-352-11	Ⓐ 47	10 V	elect	
C226	1-121-391-11	Ⓐ 1	50 V	elect	
C227	1-121-398-11	Ⓐ 10	25 V	elect	
C228	1-101-919-11	Ⓐ 0.0022			
C229	1-101-924-11	Ⓐ 0.022			
C230	1-121-395-11	Ⓐ 4.7	25 V	elect	
C231	1-105-677-12	Ⓐ 0.022		mylar	
C232	1-105-679-12	Ⓐ 0.033		mylar	
C233	1-121-398-11	Ⓐ 10	25 V	elect	
C234	1-121-404-11	Ⓐ 33	25 V	elect	
C235	1-105-685-12	Ⓐ 0.1		mylar	
C236	1-105-681-12	Ⓐ 0.047		mylar	
C237	1-105-670-12	Ⓐ 0.0056		mylar	
C238	1-105-665-12	Ⓐ 0.0022		mylar	
C239	1-102-977-11	Ⓐ 200 p			
C240	1-101-880-11	Ⓐ 47 p			
C241	1-121-391-11	Ⓐ 1	50 V	elect	
C243～246	1-101-924-11	Ⓐ 0.022			
C247	1-121-413-11	Ⓐ 100	6.3 V	elect	
C248	1-101-924-11	Ⓐ 0.022			

Ref. N
C301
C302, 3
C304
C305
C306
C307
C308
C309
C310
C311, 3
C313
C314, 3
C316～
C401, 4
C403
C404
C40
C4
C4 1
C412, 4
C414
C415
C417
C418
C419
C420
C421
C422
C423
C424
C425
C426
C427
C428
C429

Ref. No.	Part No.	Description
L201, 202	1-407-169-XX	(A) Microinductor, 100 μH
L203	1-407-175-XX	(A) Microinductor, 330 μH
L401	1-407-169-XX	(A) Microinductor, 100 μH
L402	1-405-656-00	(B) AM Osc
L801	1-401-621-00	(F) AM Ferrite-rod Antenna

TRANSFORMERS

B101	1-417-025-00	(A) Balun
B801	1-417-014-21	(A) Balun
IFT201	1-403-964-00	(C) Discriminator
IFT401	1-403-963-21	(E) AM IFT
IFT402	1-403-149-00	(B) Detector IFT
T801	1-442-564-00	(L) Power, w/voltage selector (VS801)

CAPACITORS

All capacitors are in μF and of ceramic unless otherwise noted.
(p = μμF, elect = electrolytic)
50 or less working volts are omitted except for electrolytic type.

C101	1-102-668-11	(A) 15 p			
C102	1-102-257-11	(A) 2200 p			
C103	1-102-668-11	(A) 15 p			
C104, 105	1-102-257-11	(A) 2200 p			
C106	1-102-668-11	(A) 15 p			
C107	1-101-924-11	(A) 0.022			
C108, 109	1-102-848-11	(A) 180 p			
C110	1-101-924-11	(A) 0.022			
C111	1-101-919-11	(A) 0.0022			
C112, 113	1-101-924-11	(A) 0.022			
C114	1-101-919-11	(A) 0.0022			
C115, 116	1-101-924-11	(A) 0.022			
C117, 118	1-102-663-11	(A) 8 p			
C119	1-102-668-11	(A) 15 p			
C120	1-101-924-11	(A) 0.022			
C201	1-102-978-11	(A) 220 p			
C202	1-101-919-11	(A) 0.0022			
C203	1-101-924-11	(A) 0.022			
C204	1-101-919-11	(A) 0.0022			
C205～207	1-101-924-11	(A) 0.022			
C208	1-102-978-11	(A) 220 p			
C209, 210	1-101-919-11	(A) 0.0022			
C211	1-121-391-11	(A) 1	50 V	elect	
C212	1-101-924-11	(A) 0.022			
C215	1-121-391-11	(A) 1	50 V	elect	
C216, 217	1-121-398-11	(A) 10	25 V	elect	
C218	1-101-924-11	(A) 0.022			
C219, 220	1-121-726-11	(A) 0.47	50 V	elect	
C221	1-101-924-11	(A) 0.022			
C222	1-101-919-11	(A) 0.0022			
C223	1-101-924-11	(A) 0.022			
C224	1-121-391-11	(A) 1	50 V	elect	
C225	1-121-352-11	(A) 47	10 V	elect	
C226	1-121-391-11	(A) 1	50 V	elect	
C227	1-121-398-11	(A) 10	25 V	elect	
C228	1-101-919-11	(A) 0.0022			
C229	1-101-924-11	(A) 0.022			
C230	1-121-395-11	(A) 4.7	25 V	elect	
C231	1-105-677-12	(A) 0.022		mylar	
C232	1-105-679-12	(A) 0.033		mylar	
C233	1-121-398-11	(A) 10	25 V	elect	
C234	1-121-404-11	(A) 33	25 V	elect	
C235	1-105-685-12	(A) 0.1		mylar	
C236	1-105-681-12	(A) 0.047		mylar	
C237	1-105-670-12	(A) 0.0056		mylar	
C238	1-105-665-12	(A) 0.0022		mylar	
C239	1-102-977-11	(A) 200 p			
C240	1-101-880-11	(A) 47 p			
C241	1-121-391-11	(A) 1	50 V	elect	
C243～246	1-101-924-11	(A) 0.022			
C247	1-121-413-11	(A) 100	6.3 V	elect	
C248	1-101-924-11	(A) 0.022			
C301	1-121-398-11	(A) 10	25 V	elect	
C302, 303	1-123-139-11	(A) 100	16 V	elect	
C304	1-102-973-11	(A) 100 p			
C305	1-123-054-11	(B) 22	16 V	elect	
C306	1-103-717-11	(A) 470 p		polystyrol	
C307	1-105-681-12	(A) 0.047		mylar	
C308	1-121-421-11	(B) 220	16 V	elect	
C309	1-127-373-11	(B) 0.1	16 V	solid aluminum	
C310	1-123-055-11	(A) 47	16 V	elect	
C311, 312	1-121-726-11	(A) 0.47	50 V	elect	
C313	1-121-421-11	(B) 220	16 V	elect	
C314, 315	1-108-571-12	(A) 0.0047		mylar	
C316～319	1-108-572-12	(A) 0.0051		mylar	
C401, 402	1-105-677-12	(A) 0.022		mylar	
C403	1-105-679-12	(A) 0.033		mylar	
C404	1-121-391-11	(A) 1	50 V	elect	
C409	1-101-924-11	(A) 0.022			
C410	1-121-409-11	(A) 47	16 V	elect	
C411	1-105-677-12	(A) 0.022		mylar	
C412, 413	1-101-924-11	(A) 0.022			
C414	1-127-019-11	(A) 0.1	10 V	solid aluminum	
C415	1-121-391-11	(A) 1	50 V	elect	
C417	1-101-884-11	(A) 56 p			
C418	1-101-924-11	(A) 0.022			
C419	1-105-677-12	(A) 0.022		mylar	
C420	1-105-679-12	(A) 0.033		mylar	
C421	1-105-675-12	(A) 0.015		mylar	
C422	1-121-413-11	(A) 100	6.3 V	elect	
C423	1-105-677-12	(A) 0.022		mylar	
C424	1-121-391-11	(A) 1	50 V	elect	
C425	1-102-947-11	(A) 10 p			
C426	1-105-677-12	(A) 0.022		mylar	
C427	1-105-673-12	(A) 0.01		mylar	
C428	1-105-677-12	(A) 0.022		mylar	
C429	1-121-479-11	(A) 22	16 V	elect	
C430	1-105-677-12	(A) 0.022		mylar	
C431	1-121-378-11	(A) 10	25 V	elect	
C501, 502	1-123-050-11	(B) 2.2	50 V	elect	
C503	1-101-884-11	(A) 56 p			
C504, 505	1-121-479-11	(A) 22	16 V	elect	
C506	1-101-884-11	(A) 56 p			
C507, 508	1-121-421-11	(B) 220	16 V	elect	
C509～512	1-121-913-11	(A) 3.3	25 V	elect	
C513	1-105-679-12	(A) 0.033		mylar	
C514	1-121-421-11	(B) 220	16 V	elect	
C515, 516	1-121-912-11	(A) 1	50 V	elect	
C517	1-105-675-12	(A) 0.015		mylar	
C518, 519	1-121-748-11	(A) 10	25 V	elect	
C520	1-121-915-11	(A) 4.7	25 V	elect	
C521, 522	1-121-479-11	(A) 22	16 V	elect	
C523	1-121-915-11	(A) 4.7	25 V	elect	
C524, 525	1-102-973-11	(A) 100 p			
C526, 527	1-121-404-11	(A) 33	25 V	elect	
C528, 529	1-105-661-12	(A) 0.001		mylar	
C530	1-121-421-11	(B) 220	16 V	elect	
C531, 532	1-105-669-12	(A) 0.0047		mylar	
C533～535	1-121-421-11	(B) 220	16 V	elect	
C536, 537	1-102-959-11	(A) 22 p			
C601	1-121-936-11	(B) 220	25 V	elect	
C602	1-121-941-11	(B) 470	35 V	elect	
C603	1-121-940-11	(B) 470	25 V	elect	
C604	1-121-941-11	(B) 470	35 V	elect	
C605	1-121-984-11	(D) 2200	35 V	elect	
C901, 902	1-108-244-12	(A) 0.033		mylar	
C903, 904	1-131-198-11	(B) 6.8	16 V	tantalum	
⇒C905, 906	1-131-205-11	(B) 2.2	25 V	tantalum	
C911, 912	1-108-816-12	(A) 0.1		mylar	
C913, 914	1-108-807-12	(A) 0.018		mylar	
C915, 916	1-108-808-12	(A) 0.022		mylar	
C917, 918	1-102-947-11	(A) 10 p			
C919～922	1-121-911-11	(A) 0.47	50 V	elect	

Ref. No.	Part No.	Description		
C923, 924	1-121-912-11	(A) 1	50 V	elect
C925, 926	1-121-415-11	(A) 100	16 V	elect
C927, 928	1-108-230-12	(A) 0.0022		mylar
C929, 930	1-121-912-11	(A) 1	50 V	elect
C931, 932	1-121-415-11	(A) 100	16 V	elect
C933, 934	1-121-912-11	(A) 1	50 V	elect
C937 ~ 939	1-121-916-11	(B) 10	16 V	elect
C1001	1-121-479-11	(A) 22	16 V	elect
C1250	1-121-404-11	(A) 33	25 V	elect
CT105	1-141-138-XX	(A) Trimmer		
CT401, 402	1-141-147-00	(A) Trimmer		

RESISTORS

All resistors are in ohms. Regular-type ¼ W, carbon resistors are omitted.
Check schematic diagram for resistance values. k = 1000

R320, 322	1-211-921-11	(A) 47 k	¼ W	±1%	carbon
R323, 326	1-210-504-11	(A) 3.9 k	¼ W	±1%	carbon
R327, 330	1-211-926-11	(A) 5.1 k	¼ W	±1%	carbon
R331	1-202-559-11	(A) 270	½ W	±5%	composition
R919, 920	1-210-871-11	(A) 3.6 k	¼ W	±2%	carbon
R935, 936	1-210-873-11	(A) 430	¼ W	±2%	carbon
R937, 938	1-210-851-11	(A) 910	¼ W	±2%	carbon
R947, 948	1-210-503-11	(A) 3.3 k	¼ W	±1%	carbon
R949, 950	1-210-506-11	(A) 10 k	¼ W	±1%	carbon
R1003	1-202-561-11	(A) 330	½ W	±5%	composition
RT201	1-224-648-XX	(B) 100 k, adjustable			
RT202	1-224-644-XX	(B) 4.7 k, adjustable			
RT203	1-224-641-XX	(B) 470, adjustable			
RT301	1-224-645-XX	(B) 10 k, adjustable			
RT501, 502	1-224-648-XX	(B) 100 k, adjustable			
RT503, 504	1-224-644-XX	(B) 4.7 k, adjustable			
RT901, 902	1-224-641-XX	(B) 470, adjustable			

Ref. No.	Part No.	Description
RT1001 RT1002	1-224-644-XX	(B) 4.7 k, adjustable
RV501, 502	1-224-614-00	(D) 50 k, variable; HEADPHONE LEVEL
RV701, 702	1-224-578-00	(B) 10 k, variable; LEVEL ADJUST

SWITCHES

S1	1-516-701-00	(F) Rotary Slide, MODE
S2	1-516-595-00	(G) Lever Slide, FUNCTION
S3	1-516-481-00	(E) Lever Slide, MUTING
S4 ~ 6	1-516-700-00	(F) Pushbutton, 3-key; MULTIPATH, HI-BLEND, AFC
S7	1-516-628-00	(E) Pushbutton, POWER
S8	1-516-777-XX	(B) Slide, EMPHASIS

FUSES

F801	1-532-149-00	(B) 125 mAT
F802, 803	1-532-066-00	(A) 400 mAT
F804	1-532-053-00	(A) 1.6 A

JACKS

J501	1-507-454-00	(C) HEADPHONE
J801	1-508-170-00	(B) FM 75 Ω COAXIAL INPUT
	1-507-416-00	(C) Phono, 4-p, VARIABLE/FIXED
	1-507-467-00	(B) Phono, 1-p; FM DISCRI

MISCELLANEOUS

CNJ801	1-509-546-00	(D) Connector, ac; 3-p
CF201, 202	1-527-248-94	(H) Filter, ceramic; 10.7 MHz
CP201	1-231-278-00	(B) Encapsulated Component
CP601, 602	1-102-355-00	(A) Capacitor, ceramic; (0.01 μF 500 V) x 2
LPF501	1-231-292-00	(J) Filter, low-pass

Ref. No.	*Part No.*	*Description*
M801	1-520-228-00	(H) Meter, FM TUNING
M802	1-520-229-00	(H) Meter, SIGNAL MULTIPATH
PL1～3	1-518-116-00	(B) Lamp, 11 V 360 mA; dial, meter
PL4, 5	1-518-169-XX	(B) Lamp, 4.5 V 40 mA; STEREO, DOLBY FM
TM801	1-536-446-XX	(B) Terminal Strip; 4-p; ANTENNA
	1-508-690-00	(C) Plug, voltage selector
	1-533-069-XX	(B) Holder, fuse
	1-536-392-XX	(B) Terminal Strip

ACCESSORIES

Part No.	*Description*
X-4490-002-2	(A) Cloth Ass'y, polishing
1-502-083-21	(D) Ribbon Antenna, fm
1-506-305-12	(C) Plug, coaxial input jack; FP-33
1-534-049-31	(D) Cord, connection; RK-74
1-534-819-00	(G) Cord, power (UK Model)
3-780-883-11	(F) Manual, instruction

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